

CLAIMS

1. Method of processing polymer-based mixtures and compounds in a closed mixer (1) comprising a mixing chamber (4), a pair of rotors (2, 3), a pressing ram (8) arranged above the rotors, movable between a raised resting condition which allows
5 the introduction of material into the mixing chamber and a lowered working condition during mixing, characterized in that lowering of the ram to compress said material in the mixing chamber occurs by controlling the position-time profile of the descent of the ram, until the lower end-of-stroke position is reached.

2. Method according to Claim 1, wherein control of the position-time profile
10 of the pressing ram (8) is performed when said ram enters into contact with the material introduced into the mixer (1).

3. Method according to Claim 2, wherein control of the position-time profile of the pressing ram (8) is performed by regulating the control pressure thereof, in such a way as to follow a predetermined reference position-time profile.

4. Method according to Claim 3, wherein the phase of lowering the pressing
15 ram (8) is preceded by a phase of introduction into the mixer of at least one reinforcing filler of a polymer present in the mixing chamber, and wherein the descent of the ram occurs during incorporation of said filler in the polymer base.

5. Method according to Claim 4, wherein the pressing ram reaches the lower
20 end-of-stroke position at the end of incorporation of the reinforcing filler in the polymer matrix.

6. Method according to Claim 5, wherein after the pressing ram (8) has reached the lower end-of-stroke position, plasticizers of the processed polymer base are introduced into the mixer.

7. Method according to Claim 6, wherein the reinforcing filler of the polymer
25 base comprises at least one among silica or carbon black.

8. Method according to Claim 7, wherein the position-time profile of the pressing ram (8) is a direct processing parameter.

9. Method according to Claim 1, wherein the material introduced into the mixer (1) comprises a crosslinking system for a polymer-based mixture present in the mixing chamber (4).

5 10. Method according to Claim 1, wherein the material introduced into the mixer (1) comprises a mixture.

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